tools that make a fully equipped scientific investigator, and that his clear, well balanced and thoroughly logical mind made him pre-eminently able to handle the important questions involved. He knew that Dr. Reed fully recognized and did not shirk the responsibility of the experiments upon human beings which he had conducted, and that this responsibility often weighed heavily upon him. In his opinion the work of Dr. Reed could be placed only with the discoveries of anesthesia and vaccination, and in its importance to humanity would stand second to no other achievement in the history of medical science. It would probably be a matter of many years before the full value of Dr. Reed's work would be recognized by the world.

The American Association for the Advancement of Science, at their meeting in Washington January 1st, passed resolutions on the death of Dr. Reed, reciting his achievements and recommending that Congress make suitable provision for the support of his family.

DEATHS.

After an illness of several months, Dr. Joseph R. Laine died on December 15th at the German Hospital. He was born in Canada in 1846 and came to the United States when four years of age. He was a graduate of Rush Medical College, Chicago, and later took a post-graduate course at the University of Buffalo. He commenced practice at Peoria, Ill., in the spring of 1868. Shortly afterward he removed to Nebraska and practiced there until the spring of 1873, when he accepted a position in the United States army as acting assistant surgeon. In November, 1875, he resigned from the army. Shortly after leaving the army Dr. Laine came to California and for a time had charge of the City and County Hospital at Sacramento. When the College of Physicians and Surgeons was first incorporated, Dr. Laine was made its president, but three years ago he resigned that position and severed his connection with the college.

Dr. R. H. Clement, professor of anatomy at the Hahnemann Hospital Medical College, died Tuesday night, December 23d. The deceased had suffered for many months with a complication of diseases. He was born in San Francisco and was 32 years of age at the time of his death.

Dr. E. W. Bradley, of East Oakland, died suddenly at Grass Valley on December 28th. Dr. Bradley was at one time health officer of Oakland.

Dr. Robert E. Williams, who was recently mustered out of the service as Captain and Assistant Surgeon in the Medical Corps of the Army, died at the general hospital December 30th. He had been suffering from cirrhosis of the liver and valvular disease of the heart. Dr. Williams had been in the Army ever since the outbreak of the war, serving in 1898 and 1899 as a contract surgeon and was mustered out on the 30th of September.

The President of Leland Stanford Junior University has sent the following letter to the President of the State Society, which will be read with interest by members who expect to be present at the Santa Barbara meeting:

STANFORD UNIVERSITY, Nov. 19, 1902.

Dr. F. B. Carpenter, San Francisco—Dear Sir: If I can possibly get away I shall be glad to attend the meeting of the Medical Society at Santa Barbara, in which case I shall be pleased to speak on "The Preparation for the Study of Medicine."

Very truly yours,

DAVID S. JORDAN.

A CASE OF PROGRESSIVE MUSCULAR ATROPHY OF SPINAL ORIGIN.*

By HENRY HARRIS, M. D.

Instructor of Physical Diagnosis at Cooper Medical College.

THE patient presents the typical findings of Progressive Muscular Atrophy of Spinal Origin. There are several points of particular interest in the case, especially concerning the etiology.

The patient is an American, 30 years old; by occupation a bookkeeper and miner. He presented himself on September 12, 1902, for treatment at the Cooper Medical College Dispensary. His complaint is "rheumatism of the hands and arms." The family history is negative; personal history is negative to syphilis and alcoholic excess. For three years the patient was a University student. During the past four years he has been in Yukon Territory, prospecting about the creeks in the vicinity of Dawson. He was, naturally, subjected to low temperatures and to many hardships, but always enjoyed good health up to last spring.

His present illness began in March, 1902, in the following interesting way: The patient was prospecting on his mining claim, forty-one miles from Dawson, when he received a telephone message from a friend at Dawson asking him to come there at once. This he did, walking very fast or running the whole forty-one miles, excepting a distance of ten miles, ridden in a sleigh. At the beginning of this journey the thermometer was at zero; during the journey, however, it grew still colder, so that upon his arrival at Dawson the thermometer registered 40 degrees below zero. He suffered at this time from general fatigue and chilling. Upon attempting to undress himself that night he had to summon help, stiffness and numbness of the hands having been extreme. The following day he was better, though still sore. After this fatigue had disappeared, he was well until two weeks after his severe journey. He then noticed awkwardness in movement, numbness with fibrillary contractions in both hands, more marked on the right side. At the end of a month atrophy and loss of power were noted. Three months after the outset the disease had developed to its present degree. At no time has he suffered pain. During two weeks in July he was treated at Dawson, and not improving, came to San Francisco.

Upon examination the following conditions are found: Intelligence is very good. He is six feet in height, of strong frame and well muscled, except in the affected regions. The thoracic and abdominal organs are normal. Interest attaches only to the muscular and nervous apparatus. The pupils react to both light and

* Presented before the San Francisco County Medical Society, October 14, 1902.

accommodation; movements of the eyeballs are normal, and the muscles of the face and tongue are likewise normal. The muscles of the thorax abdomen, back and lower extremity are normal. The calf,peroneal and gluteal muscles show neither hypertrophy, pseudo-hypertrophy nor atrophy. The upper extremity shows, however, in a marked degree the typical findings of this disease. Thenar eminences, interossei and lumbricales muscles of both hands are very much atrophied. The interosseous spaces on the dorsum of the hands and the flexor tendons on the palmar surfaces are prominent. The flexors of the left forearm are completely atrophied; those of the right forearm are also atrophied, but in a less degree. The extensors of the forearm on both sides are much atrophied, especially on the right side. Both biceps and both deltoids show wasting and there is corresponding loss of power. The patient's grip is very weak—formerly he prided himself on his ability to squeeze the dynamometer so that the indicator was driven far out. He is learning the trick of compensation, calling into action those groups of muscles less affected. Finer movements are very awkwardly done, but he can still button his clothes and is able to give himself a daily hypodermic injection of strychnin sulphate.

In the affected muscles fibrillary contractions are commonly seen, and, as stated, were noted by the patient at the onset of his illness. The triceps and supinator longus are very slightly, if at all, involved. The paralysis is entirely flaccid, and the tendon reflexes are still present. Upon testing the upper extremity electrically the following results are obtained: The flexors of the forearm, the abductor brevis pollicis, flexor brevis pollicis and opponens pollicis of the left side do not respond at all to either faradic or galvanic stimulation. The abductor brevis pollicis and opponens pollicis of the right side are olso without response to stimulation. The dorsal interossei of the right side respond to galvanic, but not to the faradic current. The strength of current necessary to elicit contraction in the remaining muscles of the upper extremity is in general greater than normal. Nowhere is the anodal closing contraction (A. C. C.) greater than the cathodal closing contraction (C. C. C.). A typical slow, "lazy," contraction was not found. Stimulation of the nerve trunks directly gives response except in the case of the left median. Sensation of touch, pain, heat and cold are unaffected throughout, as is also the muscular sense.

To summarize, then: (1) Marked atrophy, with flaccid paralysis in most of the muscles of the upper extremity, particularly in those of the hands. (2) Definite electrical changes, mainly quantitative, in certain of the affected muscles. (3) Absolutely no objective sensory disturbance, the only subjective one being slight numbness.

The diagnosis of this case is made on the typical distribution of the atrophy, the absence of sensory disturbance and the history. These features exclude professional palsy, post rheumatic paralysis and syringomyelia—excepting those rare cases of the latter disease where atrophy alone occurs, the gliosis affecting only the anterior horn. But the distribution of the atrophy is so extensive and so typical, that in the absence of sensory involvement, we can feel sure that we are not dealing with syringomyelia. Spinal caries is excluded by the absence of any signs of this disease in the spinal column and the absence of both sensory involvement and heightened reflexes. Muscular dystrophies are excluded by the distribution of the atrophy, entire absence of hypertrophy or pseudo-atrophy, and by the history. The positive findings are, however, distinctly those of progressive muscular atrophy of spinal origin.

The prognosis is, of course, very bad; recovery does not occur.

The patient's treatment consists of a daily hypodermatic injection of strychnin sulphate, gr. 1-30; with potassium iodid, gr. v, and Fowler's solution, gtt. ii, three times a day. A galvanic current of 6-8 ma. is applied daily for ten minutes, the anode being placed over the cervical spinous processes, and following this the muscles of both upper extremity, chest and back are stimulated and massaged by the electric roller, to which the faradic current is attached. During the four weeks in which the patient has been under observation there has been no change in his condition. The patient is shown particularly because of the definite etiological history of cold, with fatigue.

The regular meeting of the Sacramento Society for Medical Improvement was held on the evening of December 16th at the offices of Dr. Dufficy. The subject for the evening's discussion was "Something New in Abdominal Surgery," the discussion being opened by Dr. T. F. Cox and Dr. W. J. Hanna. Dr. H. H. Look is president and Dr. E. W. Twitchell secretary of the Society, which was organized in 1868 and incorporated in 1878.

And now it is announced unto us that one has come with a microscope and sundry thin glasses and small bottles of curious colors, and, after certain long study and strange manipulations has shown a thing called a germ, which is the germ of laziness. That certainly is good and excellent work, for now we may look for another to come, and after the expenditure of much time and gray matter, provide the world with a "lazinessitic" serum; and then the American people will rush about more wildly than ever.